A Comprehensive Defence of Trans People

Posted to Reddit by
u/musicotic
2018

Edited to Google Docs by
Water
2020

Link to the Reddit post:
https://www.reddit.com/r/musicotic/comments/8ttud4/a_comprehensive_defense_of_trans_people/?st=JQ2527JB&sh=231e7ebe

Credit to DGunner for some sources and inspiration for the title. I scoured hundreds of reddit posts, blog posts and news articles to get all this information.

I've been collecting dozens of scientific research and news articles on trans people for some time now, but I just realized that it was selfish to not share this research with others. All credit to the scientists!

I'm going to be using the terminology GCS (gender confirming surgery) for the post. Common synonyms are SRS, GRS. A warning that many of the studies use the terminology 'transsexual'.

Editor note: I have tried to keep this document as close as I can to the reddit post and have added or subtracted no information to/from the document. I have taken some liberties in formatting, and choice of comments to feature, as well as (1) typo correction. Likewise I have corrected “Defense” to “Defence” because I’m petty and Br*tish. :) x

Why Trans People Are Suicidal/Depressed: Society

1. Being validated with the correct name, pronouns and documentation is associated with drops in suicide/depression [1] [2] [17] and delegitimization is associated with rises in suicide [9] [19]
2. Friend, social and familial support is associated with ***drastic*** reductions in suicidal ideation and depression [2] [3] [4] [5] [6] [17] [18]
3. Gender-based violence is a factor that contributes to suicide [7] [10] [11]
4. Internalized transphobia is sometimes a factor that contributes or leads to suicide [12]
5. And seeking religious treatment is not effective, and actually increases the rate of suicide [13]
6. Discrimination is generally linked with higher suicide rates [8] [17] [18], and can cause mental disorders [14], which are further connected to suicide [15]
7. The kicker: After controlling for minority stress (discrimination) and access to healthcare (a proxy for poverty, and a measure of the ability to transition), trans people have a mental health quality of life similar to that of the general population [16]

[1] When trans youth are allowed to use their actual name, depression and suicide drops

[2] [Having a supportive family reduced suicide rates by 57% and access to legal documentation reflecting ones gender reduces suicide rate by 44%] (https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-015-1867-2)

[3] Parental support is associated with a 93% reduction in suicide attempts

[4] The ability to transition, along with family and social acceptance, are the largest factors reducing suicide risk among trans people.

[5] Social support is a suicide protective factor

[6] Familial support is associated with a better psychological and overall quality of life, and support from friends is associated with ab better quality of life in all other aspects

[7] Individuals targeted on the basis gender have the highest risk for attempting suicide, Being physically attacked is associated with suicidal ideation and behavior.

[8] Homelessness, lower income, discrimination, violence, lack of treatment (all of which have higher prevelancy among trans ppl) are contributing factors to suicide

[9] Restricing teens to the bathroom of their assigned sex increases suicide rates

[10] Gender-based victimization of transgender individuals is associated with suicide

[11] Gender-related abuse is a significant psychiatric health problem that affects the suicide rate

[12] Internalized transphobia is a factor in some suicides

[13] Seeking religious/spiritual treatment increases likelihood of committing suicide

[14] Discrimination as a cause of PTSD

[15] The connection between PTSD and suicide

[16] After controlling for minority stress and medical care, trans people have similar QOL (including mental health)

[17] Social support, reduced transphobia & discrimination, having personal identification with the correct name and pronouns, and transitioning all significantly reduce suicide rates

[18] A literature review that finds considerable support for the idea that social support reduces suicide and discrimination increases it among trans individuals

[19] College transgender students are at a higher risk for suicide and suicide attempts when they are denied access to bathrooms and gender-appropiate housing

The Benefits of Transition - Debunking Some Myths

The scientific consensus is clear. Transitioning is the only scientifically-supported method of ameliorating gender dysphoria. (I'll be lumping together HRT, SRS and other treatments for this, but if anyone has any problems or wants me to, I can attempt to separate them). This is not to say that any one surgery is going to solve all of your problems, because as shown above, society has a significant impact on the well-being of transgender individuals.

I'll go into detail about the misinterpreted studies in a minute.

1. Transition is associated with lower suicide ideation, attempts and rates [1] [2] [3] [4] [5] [6]
2. Transition is associated with a lower rate of depression [7] [8] [9] [10]
3. Transition is associated with improved anxiety, stress and distress levels [8] [9] [10] [11] [12] [13] [14]
4. Transition is associated with a higher quality of life [9] [15] [16] [17] [18]
5. Individuals undergoing transition are satisfied with their results
6. The regret rate of various transition procedures is very low [20] [23] [24] [25] [26] [27] [28] [29] [30] [31] [32] [33] [34] [37], ranging from 0% [24] to 0.6% [25] [26] to 2.2% [23], and has been decreasing with time [23] and are similar to that of other common surgeries [35]
7. Undergoing transition increases sex satisfaction [37] [38] [39] [40] [41]
8. Transition increases general mental health, reduces psychopathology and psychiatric disorders and symptoms [10] [13] [16] [21] [32] [36]
9. Transition is safe and has little long-term side effects [42] [43] [44] [45] [46] This review summarizes the benefits of transition from the research

[1] Transition vastly reduces risks of suicide attempts, and the farther along in transition someone is the lower that risk gets.

[2] Survey found that 70% were more satisfied after transition, 74% had better mental health, 63% had decreased self harming, and 63% had less suicidal ideation

[3] Rate of suicide attempts dropped dramatically from 29.3 percent to 5.1 percent after receiving medical and surgical treatment among Dutch patients treated from 1986-2001.

[4] “In a cross-sectional study of 141 transgender patients, Kuiper and Cohen-Kittenis found that after medical intervention and treatments, suicide fell from 19 percent to zero percent in transgender men and from 24 percent to 6 percent in transgender women.” Additionally, none of the patients regretted their decision to undergo GCS

[5] A 2013 study of 433 trans people in Canada found that 27% of those who hadn't begun transitioning had attempted suicide in the past year, but this dropped to 1% for those who were finished transitioning.

[6] Studies show that there is ...a little more than 1% of suicides among operated subjects. The empirical research does not confirm the opinion that suicide is strongly associated with surgical transformation

[7] Hormone treatment decreases depression by 10x

[8] Most individuals had average scores on mood, satisfaction, depression and anxiety tests in a hostile environment after SRS

[9] The research shows that hormone therapy reduces depression and anxiety to normal ranges, and is associated with a significant increase in the quality of life

[10] Treated patients have less stress, anxiety, depression, psychological symptoms, etc

[11] CHT decreases anxiety, depression and distress

[12] CHT is an effective treatment for anxiety problems

[13] SCL-90 scores (a test that measures anxiety, distress and hostility) resembled that of the general population after the initiation of hormone therapy

[14] Transition is associated with a drop in stress levels, reaching stress levels within normal values

[15] Hormonal therapy was significantly associated with a higher quality of life

[16] Gender-affirming hormone therapy is a safe and effective way to improve quality of life and mental health outcomes for transgender adolescents

[17] Undergoing CHT increased quality of life for all transgender people

[18] Transition is associated with an increased quality of life and a high satisfaction rate

[19] Satisfaction is 97% among trans men and 87% among trans women for gender confirming surgery ***in the 1990s before the advancement of the procedure***

[20] Trans individuals were overwhelmingly happy with their GCS results, said that GCS greatly improved the quality of their lives. None reported outright regret, and only a few expressed occasional regret

[21] Patients had fewer psychological problems and interpersonal difficulties and a increased life satisfaction

[22] Transition is successful at increasing body satisfaction and improving body image, which may alleviate eating disorders

[23] Regret was about 2.2% and there was a significant decline of regrets over the time period.

[24] More than 90% were satisfied, and no one reported regret after GCS

[25] Only 0.6% of transwomen and 0.3% of transmen who underwent gonadectomy were identified as experiencing regret.

[26] Out of 162 trans adults, only one reported that she would choose not to transition again, and another had some regrets but would choose to transition again, which yields a 0.6% regret rate

[27] Out of 62 trans people who had undergone surgery, one woman said she occasionally regretted it, and continued to live as a woman

[28] A study of 50 trans women who had received genital reconstruction found that only two felt regret sometimes

[29] None were consistently regretful, and 6% felt regret sometimes

[30] Studies show that there is less than 1% of regrets

[31] None of the patients regretted their surgery

[32] 1.6% of patients regretted their surgery and patients improved on 13 out of 14 mental health indicators

[33] None of the patients experienced doubts about undergoing surgery

[34] Among female-to-male transsexuals after SRS, i.e., in men, no regrets were reported in the author's sample, and in the literature they amount to less than 1%. Among male-to-female transsexuals after SRS, i.e., in women, regrets are reported in 1-1.5%

[35] Regret rates are similar to/better than that of gastric bypass/banding surgery

[36] A review of the literature: levels of psychopathology and psychiatric disorders improve with medical intervention and often reach normative values. Schizophrenia and bipolar have prevalences equal to that of the general population.

[37] Trans men experience a better sex life after SRS and do not regret the surgery

[38] Seventy-five percent had a more satisfactory sex life after SRS, with main complications being pain during intercourse and lack of lubrication.

[39] "Sexual experience was considered to have improved by 83.3% of the patients, and became more frequent for 64.7% of the patients."

[40] 80% report improvement in sexuality

[41] "Based on the available literature, transsexuals appear to have adequate sexual functioning and/or high rates of sexual satisfaction following SRS"

[42] Finds that there are little to no long-term side effects of transitioning

[43] Transgender men did not experience important side effects such as cardiovascular events, hormone-related cancers, or osteoporosis

[44] Hormone therapy is safe with medical supervision. There was no increase in mortality or cancer prevalance

[45] The only side effect of hormone therapy is current ethinyl estradiol use (**which is not commonly used anymore**), causing an increase in cardiovascular risk of death

[46] Mortality was not different from the general population and observed mortality was not linked with hormone therapy

The most common study I've seen cited about transitioning is the Williams Institute suicide report: https://williamsinstitute.law.ucla.edu/wp-content/uploads/AFSP-Williams-Suicide-Report-Final.pdf. The most common claim drawn from this report is that 'transitioning increases suicide'. This is not only contradicted by all of the other research, but not supported by the report itself:

Table 5 is on page 8. It has ***lifetime*** suicide rates for people who don't want, want or have had each transition-related procedure. For example, the lifetime suicide rate for people who do not want counseling is 29%, people who want is 39% and have had it is 44%. The ***most*** important thing to note is that this is the **LIFETIME SUICIDE RATE**. This means that a trans person who attempts suicide previous to their transition still counts after they transitioned. So, this absolutely does not support the claim that the suicide rate increases after transition. Here is a plausible explanation for why the ***lifetime*** suicide rate is higher for those who transition: the people who have the worst gender dysphoria, the most depression (and thus suicide) before transitioning are going to be more focused on transitioning as fast as possible. People who have milder gender dysphoria can afford to wait longer. People who have transitioned are also likely older, meaning they have a longer expanse of life to go through; more suicide attempts.

Another possible (similar) explanation is given in the report itself:

> Significantly higher prevalence of lifetime suicide attempts was found among respondents who were classified as trans women (MTF) and trans men (FTM),

> based on their primary self-identifications. **Since trans women and trans men are the groups within the overall transgender population most likely to need surgical care for transition**, **this may help to explain the high prevalence of lifetime suicide attempts we found among respondents who said they have had transition-related surgical procedures**, compared to those who said they did not want transition-related surgery. Comparably high, or higher, prevalence of suicide attempts were found among respondents who said that they someday wanted FTM genital surgery, hysterectomy, or phalloplasty, **suggesting that desiring transition-related health care services and procedures but not yet having them may exacerbate respondents' distress** at the incongruence between their gender identity and physical appearance. It is also possible that **elevated prevalence of lifetime suicide attempts may be due to distress related to barriers to obtaining transitionrelated health care**, such as a lack of insurance coverage, inability to afford the procedures, or lack of access to providers.

They even clarify that one can't draw that conclusion from the report:

> As has been noted, the NTDS instrument did not include questions about the timing of suicide attempts relative to transition, and thus **we were unable to determine whether suicidal behavior is significantly reduced following transition-related surgeries, as some clinical studies have suggested** (Dixen et al., 1984; De Cuypere et al., 2006).

They later state that more research is necessary on the timing of suicide increases and decreases

> First, more research is needed into the timing of suicide attempts in relation to age and gender transition status. In regard to timing of suicide attempts and gender transition, some surveys and clinical studies have found that transgender people are at an elevated risk for suicide attempt during gender transition, while rates of suicide attempts decrease after gender transition (Whittle et al., 2007; DeCuypere et al., 2006; Transgender Equality Network Ireland, 2012). Further research is clearly needed on the occurrence of all aspects of self-harm behavior, including suicidal ideation, suicide attempts and non-suicidal self-injury, in relation to gender transition and barriers to transition

Another common miscitation is the Karolinska Institute study.

Not only does the report not state what transphobe want it to, the study's lead author has clarified her opinion on transitioning and transgender people and attempted to dissuade misinterpretation.

A common argument is that this study shows that transition increases suicide or that transition is ineffective

From the conclusion:

> Persons with transsexualism, after sex reassignment, have considerably **higher risks for** mortality, **suicidal behaviour**, and psychiatric morbidity **than the general population**.

This part is cited to show that ‘transition increases suicide’. But these claims are entirely ignorant of what the study says. The study did not measure the change in suicide attempts/behavior before and after surgery, it only compared transgender people who had had GCS to the general population and concluded that they had a higher rate of suicidal behavior. This is, as before, a result of discrimination, transphobia, stigma, barriers in access to healthcare and lack of social support. Like the primary author says:

> The aim of trans medical interventions is to bring a trans person’s body more inline with their gender identity, resulting in the measurable diminishment of their gender dysphoria. However trans people as a group also experience significant social oppression in the form of bullying, abuse, rape and hate crimes. Medical transition alone won’t resolve the effects of crushing social oppression: social anxiety, depression and posttraumatic stress
>
> What we’ve found is that treatment models which ignore the effect of cultural oppression and outright hate aren’t enough. We need to understand that our treatment models must be responsive to not only gender dysphoria, but the effects of anti-trans hate as well. That’s what improved care means.
>
> **Our findings suggest that sex reassignment**, although alleviating gender dysphoria, **may not suffice as treatment for transsexualism**, and should inspire improved psychiatric and somatic care after sex reassignment for this patient group.

Of course one surgery isn’t going to solve all of trans people’s problems. Systemic oppression isn’t washed away with only medical treatment. It’s something that has to be addressed at the societal level. Anti-trans activists use this portion to claim that ‘sex reassignment’ isn’t effective at improving well-being, but that isn’t what the study means:

> People who misuse the study always omit the fact that the study clearly states that it is not an evaluation of gender dysphoria treatment. If we look at the literature, we find that several recent studies conclude that WPATH Standards of Care compliant treatment decrease gender dysphoria and improves mental health.

And TERFs and “Rad Fems” often use the study to claim that trans women are men because of the sections on ‘criminality’. Dhejne states:

> The individual in the image who is making claims about trans criminality, specifically rape likelihood, is misrepresenting the study findings. The study as a whole covers the period between 1973 and 2003. If one divides the cohort into two groups, 1973 to 1988 and 1989 to 2003, one observes that for the latter group (1989 – 2003), differences in mortality, suicide attempts and crime disappear. This means that for the 1989 to 2003 group, we did not find a male pattern of criminality.
>
> As to the criminality metric itself, we were measuring and comparing the total number of convictions, not conviction type. We were not saying that cisgender males are convicted of crimes associated with marginalization and poverty. We didn’t control for that and we were certainly not saying that we found that trans women were a rape risk. What we were saying was that for the 1973 to 1988 cohort group and the cisgender male group, both experienced similar rates of convictions. As I said, this pattern is not observed in the 1989 to 2003 cohort group.
>
> The difference we observed between the 1989 to 2003 cohort and the control group is that the trans cohort group accessed more mental health care, which is appropriate given the level of ongoing discrimination the group faces. What the data tells us is that things are getting measurably better and the issues we found affecting the 1973 to 1988 cohort group likely reflects a time when trans health and psychological care was less effective and social stigma was far worse.

She further answers questions about transgender people in her 2017 AMA on r/science for Trans Week of Science

Here is some additional information about transgender prisoners that indicates that 1 in 1250 prisoners are trans, **well** below the 0.6% population figure.

Another commonly miscited study is the 2004 British study that supposedly determines that gender confirmation surgery is ineffective. The study in reference is an update to a 1997 study and found that the newly published research on GCS was of low quality (only two studies had a control group and a dropout rate of less than 50%). And requiring double-blind controlled studies is unethical and impossible for research on GCS

Trans Youth

>Myth #1: Kids Will Change Their Minds / The Desistance Myth

The desistance myth is one of the most frustrating arguments made against transgender children. It's all based off of some research that has some significant methodological flaws. Many of the individuals included in the studies did not identify as transgender (two studies had 90% of the participants identify as their assigned sex), some studies concluded that a respondent had desisted if they did not follow up (Steensma 2011 and Steensma 2013), and many included very small sample sizes. (All from this book and this study). There is more recent research indicating that more than 96% of children diagnosed with gender dysphoria continue to identify as transgender as adults. Even the flawed research indicates something far lower than the commonly repeated trope of 80-85%: Steensma 2013 (critiqued above) reports 16%. Wallien and Cohen-Kettenis 2008 and Ristori and Steensma 2016 have multiple weaknesses that render their conclusions useless, and Steensma 2010 is also flawed. This great study goes over numerous critiques of 4 main 'desistance' studies, and this one. A sort of review on the topic of trans children goes over the problems with desistance studies, goes over the research supporting affirmative care and the problems created when parents are not supportive

There are specific criteria to be diagnosed with gender dysphoria as a child.

The American Psychological Association's guidelines state:

> The gender affirmative model supports identity exploration and development without an a priori goal of any particular gender identity or expression. Practitioners of the gender affirmative model do not push children in any direction, rather, they listen to children and, with the help of parents, translate what the child is communicating about their gender identity and expression. They work toward improving gender health, where a child is able to live in the gender that feels most authentic to the child and can express gender without fear of rejection.

There is a large body of researching indicating that gender identity is formed by the age of 3-5, possibly as early as 18 months, and that transgender children *know what gender is, what they are identifying as and think of themselves as their gender identity*:

Gender identity of transgender youth is deeply held and not the result of confusion. Transgender children view themselves as their expressed gender and are similar to cisgender children of their gender identity. (A more readable article). Transgender children develop similarly

Transgender teens that undergo gender reassignment do not experience regret. And transgender children that underwent puberty suppression had decreased emotional and

behavioral problems and increased general functioning, and all continued on to undergo hormone therapy

Transgender children endorse gender stereotypes less and see violations of gender stereotypes as more acceptable (Take THAT TERFs)

>Myth #2: Kids "Are Rushed" Into Transition

This myth is based off of the faulty assumption that transgender youth under the age of 12 get some or any form of gender confirming surgery or hormone therapy. This is simply untrue. Common headlines like "4 year old youngest sex change" are masked in false claims and conflate social transition with surgery and hormones. The standard age for hormone therapy is 16 (Endocrine Society, Family court lawyers indicate that hormone therapy is typically attained at age 16, and the NHS recommends starting at 16 years of age). Research into ages of teens that being hormone therapy indicated a median age of 17.9 and 17.3 ranging from 13.3 to 22.3 years at one clinic and another clinic in Holland had mean age of initation of 16.4-16.7, with minimum ages ranging from 13.9-14.9. The typical minimum for GCS is 18 years of age (WPATH page 60, Unicare, and the ICD-10) and the lowest reported case is Kim Petras at 16. For chest reconstructive surgery, the mean age of surgery was 17.2, and only 3 patients were under 16 years of age.

Kids simply aren't being rushed into transitioning.

>Myth #3: Puberty blockers are harmful

This just simply isn't supported by the evidence. They are safe and not harmful to bone growth, and don't affect greater brain function. The few negative effects of puberty blockers do not change children's minds. Puberty blockers are also easily and permanently reversible, and this has happened successfully in the past before . No clinically significant effects on physiologic parameters were noted.

Both the Endocrine Society and WPATH recommend puberty suppression for transgender children.

Important evidence to consider is the evidence of the efficacy and safety of puberty blockers to treat children with precocious puberty. GnRH is safe in children with precocious puberty. There is no negative impact on bone mineral density or reproductive function and the treatment did not cause or aggravate obesity. Two years after therapy, bone mineral density and BMD scores for bone age and chronological age were normal, and percentage body fat reached normative values one year after treatment. Menstrual pattern was normal, BMD was normal after treatment, and hormonal values, ovarian and uterine dimensions were normal after treatment.. Long-term leuprorelin treatment had no effect on reproductive function. There is little to no evidence of long-term changes resulting from GnRH agonists. Psychosocial problems are improved with puberty blockers, as well as a reduction in loneliness and behavioral problems. Treatment has no effect on BMI

There is significant evidence that puberty blockers can improve children's quality of life and in some cases, save children's lives

A common argument about puberty blockers comes from TERFs and "GC" types, and sometimes from the right-wing (oh wait I already talked about them 😏) is that puberty blockers cause infertility. There is no risk of fertility from puberty blockers. If a child goes directly from puberty blockers to hormone therapy without going through 'normal puberty', *that's* when it causes infertility. Puberty blockers themself cannot cause infertility.

> Spack, however, is quick to point out that there is no risk of infertility from the hormone-blocking treatment alone. Infertility only comes when the hormone-blocking treatment is paired with Stage 2, the use of opposite-sex hormones. And so, Spack says, hormone blockers should really be seen simply as a treatment that gives families more time to think about what to do.

Trans youth are overwhelmingly given the option for fertility preservation ***when switching from puberty blockers to hormones***

>Myth #4: There is no need to transition

Gender dysphoria has been documented to harm mental health and create psychological distress. Social transition has been shown to ameliorate this distress and normalize mental health outcomes:

Well-being (of transgender children after puberty suppression) was similar to or better than same-age young adults from the general population.

Early transition virtually eliminates these higher rates of depression and low self-worth

Transition dramatically improves mental health among trans kids

Olson found that kids that transition have no elevation in depression and slight elevation in anxiety.

The younger one transitions, the fewer problems one will have

Adolescents who have gender confirmation surgery alleviate gender dysphoria and function psychologically and socially well, none having regrets

(TODO: Find Olson's new study that showed her previous research was flawed due to using parental data on child mental health and actually finds that anxiety is equivalent to that of the general population)

If any links are broken, I have any typos or any incorrect statements, please notify me in the comments. If a full article is inaccessible, use outline.com and if a full study/research article is inaccessible, use sci-hub.tw. If you have studies to add or further information, feel free to

chime in in the comments and I'll add it to the post. If there are any topics you think I should cover, please ask.

Professional Opinions on Transgender Individuals and Transitioning

Master list from Lambda Legal: https://www.lambdalegal.org/sites/default/files/publications/downloads/ll_trans_professional_statements_17.pdf. This list includes the American Psychiatric Association, American Psychologist Association, AMA, The American Academy of Child and Adolescent Psychiatry, AAFP, AAPA, American College of Nurse Midwives, American College of Obstetricians and Gynecologists, APHA, NASW, National Commission on Correctional Health Care, WPATH

Another list: https://transcendlegal.org/medical-organization-statements

Royal College of Psychiatrists: http://www.teni.ie/attachments/14767e01-a8de-4b90-9a19-8c2c50edf4e1.PDF

Endocrine Society: https://www.endocrine.org/advocacy/priorities-and-positions/transgender-health

American Academy of Pediatrics: https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/AAP-Statement-in-Support-of-Transgender-Children-Adolescent-and-Young-Adults.aspx

American Association of Clinic Endocrinologists: https://www.ncbi.nlm.nih.gov/pubmed/29320643

American College of Physicians: https://www.acponline.org/acp-newsroom/american-college-of-physicians-publishes-second-edition-of-the-fenway-guide-to-lgbt-health, https://www.acponline.org/acp-newsroom/acp-says-transgender-individuals-should-not-be-barred-from-military, http://annals.org/aim/fullarticle/2292051/lesbian-gay-bisexual-transgender-health-disparities-executive-summary-policy-position

American College of Surgeons: https://www.facs.org/find-a-session/session/13221, https://www.facs.org/member-services/ras/webinars/archive/transcare

American Academy of Neurology: https://journals.lww.com/neurotodayonline/fulltext/2017/04060/Medical_Societies,_Including_the_AAN,_Move_to.10.aspx

CDC: https://www.cdc.gov/lgbthealth/index.htm, https://www.cdc.gov/nchhstp/sexual-id-orientation.htm

National Association of School Psychologists:
https://www.nasponline.org/assets/Documents/Research%20and%20Policy/Position%20Statements/Transgender_PositionStatement.pdf

Canadian Psychiatric Association:
https://www.cpa-apc.org/wp-content/uploads/LGBTQ-2014-55-web-FIN-EN.pdf

American Geriatric Society:
https://geriatricscareonline.org/ProductAbstract/american-geriatrics-society-care-of-lesbian-gay-bisexual-and-transgender-older-adults-position-statement/CL019

World Psychiatric Association:
http://www.wpanet.org/detail.php?section_id=7&content_id=1807,
http://www.hrc.org/blog/world-psychiatric-association-condemns-conversion-therapy-denounces-anti-lg

Royal Austrian & New Zealand College of Psychiatrists:
https://www.ranzcp.org/Files/Resources/College_Statements/Position_Statements/PS-83-LGBTI-mental-health-2016.aspx

ICAPAP: http://iacapap.org/wp-content/uploads/H.3-GENDER-IDENTITY-Edition-2018.pdf
This one is a bit of a stretch, but they *mention* "• Ethics and Access to Treatment for Transgender and Transsexual Issues" as one of their topics:
https://www.escap.eu/bestanden/call_for_abstracts_2015_english_final.pdf

A session from the American Association for Geriatric Psychiatry:
https://www.ajgponline.org/article/S1064-7481(18)30223-9/abstract?code=amgp-site

This guideline (https://www.endocrine.org/news-room/current-press-releases/experts-issue-recommendations-for-gender-affirmation-treatment-for-transgender-individuals) was co-sponsored by the American Association of Clinical Endocrinologists, American Society of Andrology, European Society for Paediatric Endocrinology, European Society of Endocrinology, Pediatric Endocrine Society and the World Professional Association for Transgender Health.

Depathologization

https://youtu.be/kyCgz0z05Ik and https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2ficd%2fentity%2f411470068 - gender incongruence is being moved out of the mental health category in the next version of the ICD (from the WHO - World Health Organization - which is a body of the UN). It will also be declassified as a behavioral health disorder, and is no longer considered an 'illness' of any sort. There is no gender dysphoria in the ICD, and gender incongruence is the ICD's version of that (if you doubt that, it's implied in table 2 in this study)

https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(15)00022-X/fulltext https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366%2816%2930165-1/fulltext - two studies going over the importance of and scientific basis behind depathologization

http://www.cnn.com/2012/12/02/health/new-mental-health-diagnoses/, https://www.psychiatry.org/File%20Library/Psychiatrists/Practice/DSM/APA_DSM-5-Gender-Dysphoria.pdf The DSM-V removed 'gender identity disorder' and replaced it with gender dysphoria & promoted destigmatization of being transgender, which can be compared to what the DSM did before depathologizing being gay.

https://www.scientificamerican.com/article/where-transgender-is-no-longer-a-diagnosis/ - Denmark declassifies it, and a summary of declassification in general

Sports

https://theestablishment.co/no-female-trans-athletes-do-not-have-unfair-advantages-14b8e249f93c - Trans women don't have an advantage in sports.

http://www.upworthy.com/the-next-time-someone-says-trans-people-shouldn-t-get-to-play-sports-send-them-this - Trans people do not have an advantage.

http://www.sportsci.org/2016/WCPASabstracts/ID-1699.pdf - analysis of race times,

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5357259/ - Review of the literature on sports and transgender people that concludes there is no evidence that transgender women and men have an advantage in sports.

Curative Therapy

There isn't much research on curative/conversion therapy for trans individuals, but the evidence for LGB+ people is very strong. https://www.susans.org/wiki/Conversion_therapy and http://www.nclrights.org/bornperfect-the-facts-about-conversion-therapy/ sum it up very well

http://www.wpath.org/uploaded_files/140/files/IJT%20SOC,%20V7.pdf - "Treatment aimed at trying to change a person's gender identity and expression to become more congruent with sex assigned at birth has been attempted in the past without success (Gelder & Marks, 1969; Greenson, 1964), particularly in the long term (Cohen-Kettenis & Kuiper, 1984; Pauly, 1965). Such treatment is no longer considered ethical."

http://www.apsa.org/content/2012-position-statement-attempts-change-sexual-orientation-gender-identity-or-gender - "Psychoanalytic technique does not encompass purposeful attempts to "convert," "repair," change or shift an individual's sexual orientation, gender identity or gender expression. Such directed efforts are against fundamental principles of psychoanalytic treatment and often result in substantial psychological pain by reinforcing damaging internalized attitudes."

Transgender People in the Military

Trump's decision to ban transgender individuals from entering the military, and the subsequent court stays on the decision have caused a host of myths about transgender individuals in the military to arise. I would like to note that these arguments here do not reflect any of my personal opinion on the military as a whole.

Detailed rebuttal of the Trump administration's arguments: https://www.palmcenter.org/wp-content/uploads/2018/04/Transgender-troops-are-medically-fit-1.pdf

Myth #1: Allowing transgender people into the military would harm its effectiveness

The empirical research shows that allowing transgender people into the military does not decrease effectiveness. Inclusion of transgender individuals into the military would have no effect on readiness. Only 24-130 trans service members would require deployment restrictions, while 50,000 cis service members do every year.

When the US military talked to British officers, they

> reported that increases in diversity had led to increases in readiness and performance. Interviews with these same commanders also found no effect on cohesion, though there were some reports of resistance to the policy change within the general military population, which led to a less-than-welcoming environment for transgender personnel

Surgeons disagree that transgender people are unfit to serve in the military.

And 34% of active servicewomen are on birth control.

Militaries must embrace LGBT individuals in order to survive in the current environment

72% of military members stated that working with a transgender individual would not affect their performance

The APA condemned Trump's move to ban transgender service members and affirmed that transgender inclusion in the military would not harm readiness.

Myth #2: Transgender people incur significant costs on the military

Transgender and transition-related costs make up 0.04$ to 0.13% of total military expenditures, and for comparison, the military spends 10x as much money on viagra. An image graphic to understand the scale. And expanding insurance to transition-related costs would increase the average insurance premium by 1.6 cents

Here are some facts about transgender people in the military

Fact #1: Trans people exist in the military in other countries

In fact, 18 other countries allow trans people to serve in their respective country's military including Israel, Australia, the UK, Canada and Germany

Fact #2: Trans people have existed in the United States military for some time now

An notable example of a trans person in the military is Kristin Beck of SEAL Team 6, which is one of the most prestigious parts of the US military.

A 2014 Study from the Williams Institute estimated that 15,500 trans people served in the military at that time.

Fact #3: Trans people are twice as likely to serve in the military

⅛ of the transgender population has served in the military, indicating that they serve in the military at a rate twice that of the general population

Fact #4: A transgender ban is illegal

A judge overturned Trump's order to ban trans individuals from the military

History of Trans People

Note: We must not use these examples of exact evidence of ‘transgender people’ from ancient history. Ancient societies’ views on gender, gender roles and sexuality were much different than the modern day’s, and we cannot exactly project current ideas about gender and sexuality into the past. What we can do is use these as evidence that gender is neither binary, nor fixed. The idea ‘transgender’ wasn’t really coined until the early 1900s with Magnus Hirschfield’s research. This isn’t to say that ‘transgender’ is a ‘modern concept’, but to say that the terminology is not directly comparable throughout history.

Transgender people have existed for a long long time. There have been gender diverse cultures all across the world and throughout time. I’ll go through some specific examples here:

There is a long history of genders other than male or female in various cultures around the world. We’wha is the most famous example of lhamana - a Zuni form of third gender.

The history of individuals who were neither male nor female dates back thousands of years.

The hijra of South Asia have a long history in the region, and are contemporarily considered a third sex. They are not exactly transgender in some senses, but they’re a striking attack on the historical gender binary.

The kathoey in Thailand (they don’t actually refer to themselves this way) are considered either transgender women or a third gender, and have a large presence in popular culture. Their origin dates back to the 1500s

Archaeologists have discovered a man buried like a woman from 5000 years ago, possibly indicative of some form of third gender or transgender. There is archaeolgoical evidence that transgender people existed in Ancient Sumer. Gwedolyn Leck’s book Sex and Eroticism in Mesopotamian Literature illustrates the history of multiple gender roles in Mesopotamia.

Ancient Egypt also has a history of gender complexity and variety. The first Egyptian god in existence was both male and female; Atum. And there is evidence of a ‘third gender’

The Roman emperor Elagabalus may have been proto-transgender, as they offered great sums of money to any physician that could equip them with female genitalia. Galli, followers of the goddess Cybele, willingly castrated themselves.

This study looks at gay men taking ‘transgender’ roles’ in ancient societies

Chevalier d'Éon was a trans diplomat from the 1700s who petitioned the French government to recognize her as a woman

James Barry was a trans man who achieved the second highest medical office in the British Army and performed the first caesarean section in Africa in which both the mother and the child survived.

Lucy Hicks Anderson was an African-American trans socialite who was arrested by the government for ‘impersonating a woman’

The first gender-confirming surgeries took place in the 1930s in a German institute. Dora Richter was the first recipient of vaginoplasty,and Lili Elbe was one of the first recipients

Billy Tipton and William Broadnax were trans male jazz and gospel singers respectively who lived in the early 1900s.

Marsha P Johnson and Sylvia Rivera were among the first people to throw stones at the Stonewall riots and played an important role in starting the movement for gay rights.

Roberta Cowell was the first British woman to get gender-confirmation surgery. She was a racing driver and WWII fighter pilot.

Renee Richards was a trans woman notable for her rejection from the 1976 US Open, who fought her way to the New York Supreme Court and won.

Experiences of Transphobia

Transphobia is one of the many problems facing the transgender community, and some people deny its existence and harm.

A large number of transgender people are killed every year, with 28 dying in 2017.

Exposure to transphobia increases trans women's risk of engaging in HIV risk behavior and is correlated with an increase in depression.

22.5% of trans students reported hearing transphobic comments from teachers daily or weekly (p. 50), over 66% of LGBTQ students reported hearing statements about boys not being masculine enough and over 50% of LGBTQ students reported hearing statements about girls not being feminine enough (p. 51). 89.8% of trans students reported hearing transphobic or negative gender-related comments daily or weekly. 64.8% of trans students reported being verbally harassed about their gender and 74.2% were verbally harassed about their expression of gender (p. 59). 25% of trans students were physically assaulted because of their identity (p. 63), and 49.4% of students were sexually harassed (p. 67). 89% of trans students were the subject of mean rumors and 62% cyberbullying (p. 69). And these comments have impact: 26.4% of trans students found comments to be 'extremely upsetting' (p. 75), and 79.1% of trans students reported at least one unsafe location in their school (p. 80). 78%-82% of trans students generally feel unsafe (p. 85). 43.5% of trans teens have skipped school because they felt unsafe, and 14.6% have skipped 10 or more days (p. 89). About half of trans students reported their school becoming more homophobic (p. 92). Around 30% of trans students reported feeling depressed or a sense of nonbelonging about their school (p. 94). The report goes on and on, but I will stop here. The point is that there are numerous factors of transphobia in schools, and these factors have negative effects on transgender children's mental health and safety. Study here

This comprehensive study documented transphobia in the workplace, school, home and neighborhood, goods, services and housing, healthcare and legal systems and its effects on safety and confidence in public institutions.

This study calculated genderism and transphobia in mental health professionals to find that they have low levels of G&T. Religion was associated with higher levels of transphobia, as was heterosexuality. Lower levels of self esteem and higher levels of ego-defensiveness were associated with transphobia, as was moral dogmatism and homophobia. Discrimination by healthcare professionals has been documented time and time again, with 65% of transgender people reporting being discriminated against by public acommodations; 24% in a public health context. 50% of trans individuals have had to teach their healthcare professionals about transgender healthcare and 19% have been denied care

17.7% of trans parents lost custody or recieved reduced custody due to their being trans. A substantial minority of trans parents were turned down for a job, had to move away, been beaten up, been harassed by police or been fired from a job for being trans.

⅓ of trans employees in the UK have quit a job due to workplace discrimination

23% of trans people have experienced housing discrimination

Transphobia causes depression and anxiety. Another study linked discrimination and stigma to distress and impairment. A 2016 report showed that discrimination increased stress levels, and other research has shown discrimination's role in risk-taking behaviors. The APS reported that discrimination increases risk-taking, anger and vigilance, as well as greater cortisol increases, less efficient cardiac output, increased vascular resistance, and impaired memory recall, all of which are linked with brain aging and early onset Alzheimers. Stigma encourages trans individuals to shy away from healthcare professionals and use addictive substances.

Stigma, social isolation, transphobia and discrimination lead to distress, anxiety, depression, alcohol use and other mental health problems

Trans people experience a higher rate of homelessness due to housing discrimination and parental rejection, and a higher level of unemployment due to employer discrimination

Transphobia is associated with suicidality, as does gender-based victimization, discrimination, bullying, violence. This is supported by other research. Repeated discrimination has even been correlated with PTSD. Stigma is associated with higher rates of depression and anxiety

Gender and Sex Part I

NOTE: Transgender people are not intersex people. Intersex people and transgender people are different communities with different needs, but there is some overlap. Strict gender binaries and coercive gender assignment at birth are problems that face communities. Intersex people are more likely than the general population to be transgender; from 8 out of 14 individuals with cloacal exstrophy that were assigned female at birth later identifying as male, to 56-63% of cases with 5alpha-RD-2 and 39-64% of cases with 17beta-HSD-3 who were raised as girls, to rates of gender dysphoria ranging from 8.5%-20%. I mention intersex conditions to demolish the idea that either sex or gender are binary, not for any other reason.

A common argument is that 'gender is genitals' or 'gender is chromosomes'. Not only does this conflate gender and sex, but it's not even true for sex.

If gender is genitals, then what about the people with Swyer syndrome that have 'female' genitalia. If gender is genitals, then what about the people with complete androgen insensitivity syndrome that have XY chromosomes, vaginas and breasts. If gender is genitals what about everyone with ambiguous genitalia. Are they male? Are they female? Are they, *gasp*, a third gender? If gender is genitals what about the people that have their penises destroyed in an accident? If gender is genitals what about all of the people who undergo penectomy and gonadectomy? If gender is genitals what about all of the people had their penises removed in ancient China and Japan? If gender is genitals, how do you know someone's gender without having them drop their pants? How will you know what to call them? Are we going to have everyone drop their pants before they go into the bathroom?

If the ability to conceive is gender, then what about every single person with fertility problems, which isn't any small number of people? Or every man who gets a vasectomy? Or when a woman is on birth control? Is she no longer a woman during that? Or tubal ligitation? Older people are more likely to be infertile; men and women.

People with Swyer syndrome are externally female with XY chromosomes, but have nonfunctional gonads.

People with androgen-insensitivity syndrome have cells that on some level do not respond to androgens. These people are AMAB but 'naturally develop' with female features. People with complete androgen insensitivity syndrome develop vaginas and breasts, but not a uterus. They are essentially phenotypically female, but have XY chromosomes.

People can have genetic mosaicism, where different cells can have completely different chromosomal makeups; some XY and some XX.

People with 5-alpha reductase deficiency have cells that do not produce enough dihydrotestosterone. They often have female or ambiguous genitalia, and do not grow facial

or body hair. At puberty, a lot changes and their bodies become more masculine. Some patients continue to identify as female throughout their lives and begin hormone therapy.

People with 17-beta hydroxysteroid dehydrogenase 3 deficiency have ambiguous genitalia or a micropenis and have a mix of masculine and feminie traits (breast enlargement, increased muscles mass, facial and body hair)

Some people with congenital adrenal hyperplasia have vaginal structures that act like penises and are capable of engaging in pentrative intercourse.

https://en.wikipedia.org/wiki/Estrogen_insensitivity_syndrome

Isolated 17,20-lyase deficiency can lead to partial or complete feminization of XY patients with the disorder.

Mullerian agenesis causes the absensce of the uterus and other reproductive organs and may have an abnormally shallow vagina.

Both XY and XX people can have the disorder alphallia, which is the absence of either the penis or the vagina.

People with XX male syndrome have XX chromosomes, but have a variety of masculine features ranging from ambiguous genitalia to a small phallus and actually have semen counts above 0, but are still infertile. They develop normally, and grow body hair and have increased muscle mass. Complete masculinization is possible. 80% have normal pubic hair and normal penile size after puberty.

There are even examples of women with XY chromosomes with phenotypes identical to that of XX women, who was able to give birth to another woman with XY chromosomes with complete gonadal dysgenesis (the ability to give birth)

All of this goes to show that genitals, outward physical appearance and ability to reproduce aren't what define gender.

Gender and Sex Part II

And chromosomes can't define gender or sex either.

If gender is chromosomes, then what about anyone with XXX, XXXX, XXXXX, XXY, XXYY, XXXY or any other chromosomal disorder. What about the people that have somatic genetic mosaicism and have some cells that are XY and some that are XX?

The WHO has a great post explaining the difference between chromosomes and gender.

Some women have 47,XXY chromosomes and some men do. Some are even fertile.

Some men have XXXY syndrome, while others have XXYY chromosomes. Women can have XXXXX or XXXX or XXX chromosomes.

And before you say something like 'well intersex people are an exception' or 'there aren't that many intersex people' or 'it's the exception that proves the rule', just read this:

Intersex advocates consider the fact that there 'aren't that many intersex people' or 'intersex people aren't common' a myth. The numbers vary, but the total number of individuals with ambiguous genitalia is about 1 in 1500 to 1 in 2000. This statistic uses a narrow definition of intersex (often opposed by intersex advocates), so if we expand the definition to development sex disorders, we reach a total of 1.7%.

If we look at the total number of individuals with sex chromosomes that are neither entirely XX or XY:

XXY has a prevalence of 1 to 2 per 1,000 births

XXYY has a prevalence of 1 in 18,000-40,000 births

XXX has a prevalence of 1 in 1,000 births

XO has a prevalence of 1 in 2,000-5,000 births

Genetic mosaicism may account for up to 6.5% of human genomic variation. Somatic genetic mosaicism has been reported to have a incidence of 70% of cleavage-stage embryos and 90% of blastocyst-stage embryos created via IVF, which has been increasing.

From this study, between 1 in 33,000 and 1 in 40,000 have NF2, and 30% of those patients have somatic mosaicism. This gives a total incidence of 1 in 909,090 individuals have NF2 somatic mosaicism.

On sex, one of my favorite posts is this one. Another good scientific article breaks down the sex dichotomy, and represents the new biologist view that sex isn't a binary.

Relevant Comments

u/WikiTextBot (1): (Brief descriptions of some people named.)

Kristin Beck

Kristin Beck (June 21, 1966) is a retired United States Navy SEAL who gained public attention in 2013 when she came out as a trans woman. She published her memoir in June 2013, Warrior Princess: A U.S. Navy SEAL's Journey to Coming out Transgender, detailing her experiences.

We'wha

We'wha (1849–1896, various spellings) was a Zuni Native American from New Mexico. She was the most famous lhamana, a traditional Zuni gender role, now described as mixed-gender or Two-Spirit. Lhamana were male-bodied but performed primarily feminine tasks, wearing a mixture of women's and men's clothing and doing a great deal of women's work as well as serving as mediators.

We'wha is the subject of the book The Zuni Man-Woman by Will Roscoe.

Kathoey

Kathoey or katoey (Thai: กะเทย; RTGS: Kathoei [kàtʰɤ̯ːj]) is a transgender woman or an effeminate gay male in Thailand. A significant number of Thais perceive kathoeys as belonging to a third gender, including many kathoeys themselves, while others see them as either a kind of man or a kind of woman. Transgender women in Thailand mostly use terms other than Kathoey when referring to themselves.

Chevalier d'Éon

Charles-Geneviève-Louis-Auguste-André-Timothée d'Éon de Beaumont (5 October 1728 – 21 May 1810), usually known as the Chevalier d'Éon, was a French diplomat, spy, Freemason and soldier who fought in the Seven Years' War. D'Éon had androgynous physical characteristics and natural abilities as a mimic, good features for a spy. D'Éon appeared publicly as a man and pursued masculine occupations for 49 years, although during that time d'Éon successfully infiltrated the court of Empress Elizabeth of Russia by

presenting as a woman. For 33 years, from 1777, d'Éon dressed as a woman, identifying as female.

James Barry (surgeon)

Dr. James Miranda Steuart Barry (November 9, 1795 – 25 July 1865) was a military surgeon in the British Army, born in Ireland. Barry obtained a medical degree from the University of Edinburgh Medical School, then served first in Cape Town, South Africa and subsequently in many parts of the British Empire. Before retirement, Barry had risen to the rank of Inspector General (equivalent to Brigadier General) in charge of military hospitals, the second highest medical office in the British Army.

Lucy Hicks Anderson

Lucy Hicks Anderson was a socialite and chef, best known for her time spent in Oxnard, California from 1920 to 1946. According to the Handbook of LGBT Elders, Anderson is "one of the earliest documented cases of an African-American transgender person". In 1945 she was arrested and tried for perjury, under the justification that she had lied about her sex on her marriage license and was impersonating a woman.

Institut für Sexualwissenschaft

The Institut für Sexualwissenschaft was an early private sexology research institute in Germany from 1919 to 1933. The name is variously translated as Institute of Sex Research, Institute of Sexology, Institute for Sexology or Institute for the Science of Sexuality. The Nazi book burnings in Berlin included the archives of the Institute.

The Institute was a non-profit foundation situated in Berlin's Tiergarten.

Lili Elbe

Lili Ilse Elvenes (28 December 1882 – 13 September 1931), better known as Lili Elbe, was a Danish transgender woman and one of the first identifiable recipients of sex reassignment surgery. Elbe was born Einar Magnus Andreas Wegener and was a successful painter under that name. During this time she also presented as Lili (sometimes spelled Lily) and was publicly introduced as Einar's sister. After successfully transitioning in 1930, she changed her legal name to Lili Ilse Elvenes and stopped painting altogether.

Billy Tipton

William Lee Tipton (December 29, 1914 – January 21, 1989) was an American jazz musician and bandleader. He is also notable for the postmortem discovery that, although he lived his adult life as a man, he was assigned female at birth.

Willmer "Little Ax" Broadnax

Willmer M. Broadnax (December 28, 1916 – June 1, 1992), also known as "Little Ax", "Wilbur", "Willie", and "Wilmer", was an American hard gospel quartet singer.

Roberta Cowell

Roberta Elizabeth Marshall Cowell (8 April 1918 – 11 October 2011) was a racing driver and Second World War fighter pilot. She was the first known British trans woman to undergo sex reassignment surgery.

Renée Richards

Renée Richards (born August 19, 1934) is an American ophthalmologist and former tennis player who had some success on the professional circuit in the 1970s, and became widely known following male-to-female sex reassignment surgery, when she fought to compete as a woman in the 1976 US Open.

The United States Tennis Association began that year requiring genetic screening for female players. She challenged that policy, and the New York Supreme Court ruled in her favor, a landmark case in transgender rights. As one of the first professional athletes to identify as transgender, she became a spokesperson for that community.

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u/WikiTextBot (2): (Brief descriptions of some terms used.)

XY gonadal dysgenesis

Swyer syndrome, or XY gonadal dysgenesis, is a type of hypogonadism in a person whose karyotype is 46,XY. The person is externally female with streak gonads, and if left untreated, will not experience puberty. Such gonads are typically surgically removed (as they have a significant risk of developing tumors) and a typical medical treatment would include hormone

replacement therapy. The syndrome was named by Gerald Swyer, an endocrinologist, based in London.

Complete androgen insensitivity syndrome

Complete androgen insensitivity syndrome (CAIS) is a condition that results in the complete inability of the cell to respond to androgens. As such, the insensitivity to androgens is only clinically significant when it occurs in genetic males (i.e. individuals with a Y chromosome, or more specifically, an SRY gene). The unresponsiveness of the cell to the presence of androgenic hormones prevents the masculinization of male genitalia in the developing fetus, as well as the development of male secondary sexual characteristics at puberty, but does allow, without significant impairment, female genital and sexual development in genetic males with the condition.

Birth control

Birth control, also known as contraception and fertility control, is a method or device used to prevent pregnancy. Birth control has been used since ancient times, but effective and safe methods of birth control only became available in the 20th century. Planning, making available, and using birth control is called family planning. Some cultures limit or discourage access to birth control because they consider it to be morally, religiously, or politically undesirable.

Androgen insensitivity syndrome

Androgen insensitivity syndrome (AIS) is an intersex condition in which there is a partial or complete inability of many cells in the affected genetic male to respond to androgenic hormones. This can prevent or impair the masculinization of male genitalia in the developing genetic male (chromosomal XY) fetus, as well as the development of male secondary sexual characteristics at puberty. Clinical phenotypes range from a normal male habitus with mild spermatogenic defect or reduced secondary terminal hair; to a full female habitus despite the presence of a Y-chromosome. Women (chromosomal XX) who are heterozygous for the AR gene have normal primary and secondary sexual characteristics; this female carrier will pass the affected AR gene to any child she has with 50% likelihood.

Congenital adrenal hyperplasia

Congenital adrenal hyperplasia (CAH) are any of several autosomal recessive diseases resulting from mutations of genes for enzymes mediating the biochemical steps of production of mineralocorticoids, glucocorticoids or sex steroids from cholesterol by the adrenal glands (steroidogenesis).

Most of these conditions involve excessive or deficient production of sex steroids and can alter development of primary or secondary sex characteristics in some affected infants, children, or adults.

Estrogen insensitivity syndrome

Estrogen insensitivity syndrome (EIS), or estrogen resistance, is a form of congenital estrogen deficiency or hypoestrogenism which is caused by a defective estrogen receptor (ER) – specifically, the estrogen receptor alpha (ERα) – that results in an inability of estrogen to mediate its biological effects in the body. Congenital estrogen deficiency can alternatively be caused by a defect in aromatase, the enzyme responsible for the biosynthesis of estrogens, a condition which is referred to as aromatase deficiency and is similar in symptomatology to EIS.

EIS is an extremely rare occurrence. As of 2016, there have been three published reports of EIS, involving a total of five individuals. The reports include a male case published in 1994, a female case published in 2013, and a familial case involving two sisters and a brother which was published in 2016.

Isolated 17,20-lyase deficiency

Isolated 17,20-lyase deficiency (ILD), also called isolated 17,20-desmolase deficiency, is a rare endocrine and autosomal recessive genetic disorder which is characterized by a complete or partial loss of 17,20-lyase activity and, in turn, impaired production of the androgen and estrogen sex steroids. The condition manifests itself as pseudohermaphroditism (partially or fully underdeveloped genitalia) in males, in whom it is considered to be a form of intersex, and, in both sexes, as a reduced or absent puberty/lack of development of secondary sexual characteristics, resulting in a somewhat childlike appearance in adulthood (if left untreated).

Unlike the case of combined 17α-hydroxylase/17,20-lyase deficiency, isolated 17,20-lyase deficiency does not affect glucocorticoid production (or mineralocorticoid levels), and for that reason, does not result in adrenal hyperplasia or hypertension.

Müllerian agenesis

Müllerian agenesis, also known as Mayer–Rokitansky–Küster–Hauser syndrome (MRKH) or vaginal agenesis, is a congenital malformation characterized by a failure of the Müllerian duct to develop, resulting in a missing uterus and variable degrees of vaginal hypoplasia of its upper portion. Müllerian agenesis (including absence of the uterus, cervix and/or vagina) is the cause in 15% of cases of primary amenorrhoea. Because most of the vagina does not develop from the Müllerian duct, instead developing from the urogenital sinus, along with the bladder and urethra, it is present even when the Müllerian duct is completely absent. Because ovaries do not develop from the Müllerian ducts, affected women might have normal secondary sexual characteristics but are infertile due to the lack of a functional uterus.

Aphallia

Aphallia is a congenital malformation in which the phallus (penis or clitoris) is absent. It is the female counterpart of penile agenesis and testicular agenesis. The word is derived from the Greek a- for "not", and phallos for "penis". It is classified as an intersex condition.

XX male syndrome

XX male syndrome is a rare congenital condition where an individual with a female genotype has phenotypically male characteristics that can vary between cases. In 90% of these individuals the syndrome is caused by unequal crossing over between X and Y chromosomes during meiosis in the father, and results in the X chromosome containing the SRY gene, as opposed to the Y chromosome where it is normally found. When the X with the SRY gene combines with a normal X from the mother during fertilization, the result is an XX male. Less common are SRY-negative XX males which can be caused by a mutation in an autosomal or X chromosomal gene.

Here is link number 3 - Previous text "80%"

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u/musicotic : (Response to a comment criticising the methodology and contents of this document. The comment was too imprecise to be worth including.)

Almost every source is a scientific study. Numerous citations to pubmed, bmj, AAP & so on.

> “They state facts and don't say where they got them from.”

They got the facts by studying individuals *because those are studies*. Knowledge has to come from somewhere originally. Maybe try learning basic science?

https://en.wikipedia.org/wiki/Observational_study

https://en.wikipedia.org/wiki/Randomized_controlled_trial

https://en.wikipedia.org/wiki/Scientific_method

> “not to mention linking website that have NO SOURCES and are anecdotal.”

I'm struggling to find any "anecdotal" sources here.

> “All this stuff you got here and it can be debunked totally in 3 sentences of basic common sense.”

And yet you didn't do any of that. You have to *explain* why the sources that I'm claiming support my points (because they do if you'd bothered to read them) *actually don't*.

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u/WikiTextBot (3): (Brief description of the some of the terms linked in the previous comment.)

Observational study

In fields such as epidemiology, social sciences, psychology and statistics, an observational study draws inferences from a sample to a population where the independent variable is not under the control of the researcher because of ethical concerns or logistical constraints. One common observational study is about the possible effect of a treatment on subjects, where the assignment of subjects into a treated group versus a control group is outside the control of the investigator. This is in contrast with experiments, such as randomized controlled trials, where each subject is randomly assigned to a treated group or a control group.

Randomized controlled trial

A randomized controlled trial (or randomized control trial; RCT) is a type of scientific (often medical) experiment which aims to reduce bias when testing a new treatment. The people participating in the trial are randomly allocated to either the group receiving the treatment under investigation or to a group receiving standard treatment (or placebo treatment) as the control. Randomization minimises selection bias and the different comparison groups allow the researchers to determine any effects of the treatment when compared with the no treatment (control) group, while other variables are kept constant. The RCT is often considered the gold standard for a clinical trial.

Scientific method

The scientific method is an empirical method of knowledge acquisition which has characterized the development of science since at least the 17th century. It involves careful observation, which includes rigorous skepticism about what is observed, given that cognitive assumptions about how the world works influence how one interprets a percept. It involves formulating hypotheses, via induction, based on such observations; experimental and measurement-based testing of deductions drawn from the hypotheses; and refinement (or elimination) of the hypotheses based on the experimental findings. These are principles of the scientific method, as opposed to a definitive series of steps applicable to all scientific enterprises.Though there are diverse models for the scientific method available, in general there is a continuous process that includes observations about the natural world.